

Sub C ✓ PLEASE AMEND THE CLAIMS AS FOLLOWS:

20. (AMENDED) A continuous upper level, metal interconnect structure, comprised of a single metal element, on a semiconductor substrate, comprising:

a lower level, metal interconnect structure;

an insulator layer on said lower level, metal interconnect structure;

B 5 a via hole in said insulator layer exposing a portion of a top surface of said lower level, metal interconnect structure;

a recessed metal plug structure, located in a bottom portion of said via hole, with said recessed metal plug structure overlying and contacting the portion of said lower level, metal interconnect structure, exposed in said via hole; and

10 said continuous upper level, metal interconnect structure, comprised of a metal structure component and of a metal ring component, with said metal structure component only on one side of via hole, located on a portion of a top surface of said insulator layer, and also located on an edge of underlying, said recessed metal plug structure, and with said metal ring component attached to said metal structure
15 component and located overlying, and contacting portions of a top surface of said recessed metal plug structure, with said metal ring component comprised of metal spacers on the sides of a top portion of said via hole.

21. (AMENDED) The continuous upper level, metal interconnect structure of claim 20, wherein said lower level, metal interconnect structure is comprised of a composite metal structure, featuring an aluminum, or an aluminum based layer, at a thickness between about 2000 to 20000 Angstroms, with an underlying titanium nitride layer, at a thickness between about 100 to 1500 Angstroms, and an overlying titanium nitride layer, at a thickness between about 100 to 1500 Angstroms.

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22. (AMENDED) The continuous upper level, metal interconnect structure of claim 20, wherein said via hole is comprised with a diameter between about 0.10 to 1.0 um.

23. (AMENDED) The continuous upper level, metal interconnect structure of claim 20, wherein said recessed metal plug structure, is comprised of tungsten, with the height of said recessed metal plug structure, located in said bottom portion of said via hole, between about 3000 to 20000 Angstroms.

24. (AMENDED) The continuous upper level, metal interconnect structure of claim 20, wherein said metal ring structure, attached to said metal structure component of said upper level, metal interconnect structure, is comprised of aluminum, or aluminum-copper spacers, located on the sides of said top portion of said via hole.